IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the present application:

1. (Currently amended) A method for establishing links between Fibre Channel (FC) node devices through a FC fabric without using FC Address Resolution Protocol (FARP), the method comprising:

assigning, by a computer system, a common name to a pair of ports without assigning an IP address to each of the pair of ports, wherein the common name is assigned to each port of the pair of ports, each port in the pair of ports is located on first and second FC node devices, respectively, and the pair of ports includes a source port and a destination port;

storing, by the computer system, the common name-to-port assignment within a name server for the FC fabric;

configuring, by the computer system, the first FC node device to query the name server to obtain an FC address identifier identity for the port located on the second FC node device based on the common name, and configuring the second FC node device to query the name server to obtain an FC address identifier identity for the port located on the first FC node device based on the common name; and

configuring, by the computer system, the first FC node device to create a link between the pair of ports using the FC address identifier~~identity~~ for the second FC node device, and configuring the second FC node device to create a link between the pair of ports using the FC address identifier~~identity~~ for the first FC node device.

2. (Previously presented) The method of claim 1, wherein assigning the common name comprises automatically deriving the common name based on attributes of the pair of ports.

3. (Previously presented) The method of claim 2, wherein automatically deriving the common name comprises:

detecting a port type, a slot number, and a sub-slot number for the pair of ports; and

combining the port type, the slot number and the sub-slot number for the common name.

4. (Previously presented) The method of claim 3, storing the common name-to-port assignment within the name server for the FC fabric comprising storing the common name within at least a portion of a symbolic name for each port, as defined in the FC protocol.

5. (Previously presented) The method of claim 4, wherein storing the common name-to-port assignment within the name server comprises configuring each port to register the common name as a symbolic name with the name server.

6. (Currently amended) A method for creating links between Fibre Channel (FC) node devices through a FC fabric without using FC Address Resolution Protocol (FARP), the method comprising:

assigning, by a computer system, a symbolic name to each of a plurality of FC ports without assigning an IP address to each of the pair of ports, wherein the symbolic name is assigned to each FC port of the plurality of FC ports, each FC port is located on a different FC node device, each symbolic name is a combination of a plurality of attributes of a corresponding FC port, and the plurality of attributes are selected from the group consisting of a port type, a slot number for each FC port, and a sub-slot number for each FC port;

configuring, by the computer system, each FC port to register its symbolic name as a symbolic port name with a name server for the FC fabric;

configuring, by the computer system, each FC port to query the name server to find a FC address identifier of another FC port based on the symbolic name of the another FC port; and

configuring, by the computer system, each FC port to login to the another FC port using the FC address identifier.

7-8. (Canceled)

9. (Previously presented) The method of claim 6, wherein the plurality of attributes are automatically detected by an operating system for the FC node device.

10. (Previously presented) The method of claim 9, wherein assigning the symbolic name comprises storing the symbolic name at a predefined location within a symbolic name field for each port, as defined in the FC protocol.

11. (Currently amended) A computer readable medium, having stored thereon a sequence of instructions which when executed by a processor, cause the processor to perform a method for establishing a link from a first Fibre Channel (FC) port to a second FC port through a FC fabric without using FC Address Resolution Protocol (FARP), the method comprising:

   querying a name server for the FC fabric to obtain a FC address identifier~~identity~~ for the second port, based on a match of a symbolic name of the first FC port and a symbolic name of the second FC port without using an IP address assigned to the second FC port, wherein the match occurs when the symbolic name of the first FC port is equal to the symbolic name of the second FC port, the first and second FC ports are located on first and second FC node devices, respectively, and the symbolic names are stored within the name server; and

creating the link from the first FC port to the second FC port using the obtained

FC address identifieridentity for the second FC port.

12. (Currently amended) The computer readable medium of claim 11, wherein the

symbolic names stored within the name server areis automatically derived based on

attributes of the first and second FC ports.

13. (Previously presented) The computer readable medium of claim 12, wherein the

attributes comprise a port-type, a slot number, and a sub-slot number for the first and

second FC ports.

14. (Currently amended) A computer readable medium having stored thereon a

sequence of instructions which when executed by a processor, cause the processor to

perform a method for creating links between a first Fibre Channel (FC) port and a

second FC port through a FC fabric without using FC Address Resolution Protocol

(FARP), the method comprising:

querying a name server for the FC fabric to obtain symbolic names of other FC

ports on the FC fabric that support an upper-level protocol (ULP) supported by the first

FC port without using an IP address assigned to the second FC port, wherein each

symbolic name is derived based on port type and PCI address of a corresponding FC

port and registered within a symbolic name field in a database for the name server by a

FC node device having the corresponding FC port;

comparing each of the symbolic names obtained from the name server with a symbolic name for the first FC port to find a match, wherein the match occurs when the symbolic name for the first FC port is equal to a symbolic name of the obtained symbolic names; and

performing a port login using a port identifier of the second FC port ~~whose~~wherein the symbolic name for the second FC port has the match with the symbolic name for the first FC port.

15. (Previously presented) The computer readable medium of claim 14, wherein the upper-level protocol is the Fibre Channel Virtual Interface (FCVI) protocol.

16. (Currently amended) A storage system comprising:

a processor;

a network adapter, coupled to the processor, to connect the storage system to a Fibre Channel (FC) fabric; and

a memory, coupled to the processor, to store instructions which when executed by the processor cause the processor to perform a method for creating a link between a first FC port and a second FC port through a FC fabric without using FC Address Resolution Protocol (FARP), the method comprising:

querying a name server for the FC fabric to obtain symbolic names for FC ports in other storage systems on the FC fabric without using an IP address

assigned to the second FC port, wherein each symbolic name is derived based on

port type and PCI address of a corresponding FC port and registered within a

symbolic name field in a database for the name server by a storage system which

has the corresponding FC port;

comparing each of the symbolic names obtained from the name server

with a symbolic name for the first FC port to find a match, wherein the match

occurs when the symbolic name for the first FC port is equal to a symbolic name

of the obtained symbolic names; and

performing a port login using a port identifier of the second FC port

whosewherein the symbolic name for the second FC port has the match with the

symbolic name for the first FC port.

17. (Previously presented) The storage system of claim 16, wherein the symbolic names

stored in the name server are automatically derived based on a plurality of attributes of

the first and second FC ports.

18-21. (Canceled)

22. (Currently amended) A method for creating a link from a first Fibre Channel (FC)

node device to a second FC node device on a FC fabric having a name server for the FC

fabric without using FC Address Resolution Protocol (FARP), the method comprising:

querying the name server to retrieve a plurality of values ~~of~~for a symbolic name field within a name server database for the name server without using an IP address assigned to the second FC node device;

searching the plurality of values received from the name server ~~for~~to find a match with a version number and a combination of a plurality of attributes of the second FC node device, wherein the plurality of attributes are selected from the group consisting of a port type, a slot number and a sub-slot number for each port in the second FC node device, the version number identifies an encoding process used to encode the combination of the plurality of attributes~~, and the first FC node device~~, and the match occurs when the version number and the combination of the plurality of attributes of the second FC node device are found from the received plurality of values;

obtaining a FC address identifier for the second FC node device from the name server ~~using~~based on the match with the version number and the ~~searched~~ combination of the plurality of attributes of the second FC node device; and

creating the link from the first FC node device using the[[a]] FC address identifier for the second FC node device.

23. (Canceled)

24. (Previously presented) The method of claim 22, wherein the combination of the plurality of attributes are registered with the name server as a symbolic name by the second FC node device.

25. (Previously presented) The method of claim 24, wherein the plurality of attributes are automatically detected and combined for the combination by an operating system for the second FC node device.

26. (Previously presented) The method of claim 22, wherein the combination is stored at a predefined location within a symbolic name field for each port, as defined in the FC protocol, in the name server database.